First record of *Enneapterygius pusillus* (Tripterygiidae) in the Oman Sea (Gulf of Oman)

by

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RÉSUMÉ. - Premier signalement de *Enneapterygius pusillus* (Tripterygiidae) en mer d'Oman (golfe d'Oman).

Enneapterygius pusillus Rüppell, 1835 a été décrit en mer Rouge (Érythrée). Dans le Sultanat d'Oman, il n'était connu que des côtes sud (mer d'Arabie) et du golfe Arabo-Persique. Cette note constitue le premier signalement de ce petit triptérygion en mer d'Oman (golfe d'Oman), avec un spécimen photographié dans la réserve marine de l'île Al-Fahal près de Mascate, Oman. *E. pusillus* est ainsi la deuxième espèce de Tripterygiidae signalée en mer d'Oman avec *Helcogramma steinitzi* Clark, 1979.

Key words. - Tripterygiidae - *Enneapterygius pusillus* - Oman Sea - Al-Fahal Island - First record.

The triplefin family Tripterygiidae includes 32 valid genera and around 136 nominal species (Eschmeyer and Baily, 1990). Along the entire coast of Oman, Randall (1995a) reported seven species of triplefins belonging to three genera. Of them, only *Helcogramma steinitzi* Clark, 1979 was recorded in both the Arabian Sea coasts of Oman and Oman Sea. This is an illustration of the existing ichthyofaunal disparity between the Arabian Sea, the Oman Sea (Gulf of Oman) and the Arabian Gulf, that can be related with marked differences in climate and hydrology (Randall, 1995b).

The known distribution of *Enneapterygius pusillus* Rüppell, 1835 ranges from the Red Sea south to Natal (Holleman *in* Smith and Heemstra, 1986; Holleman, 2005) and east to India (Lal Mohan, 1971). The species was described and named in 1835 for specimens collected in Massawa, Red Sea. Randall (1995a) records the species from the Arabian Sea coast of Oman (Kuria Muria Islands and Masirah Island) and also from the Arabian Gulf, on the coast of the Musandam Peninsula (Maqlab Island) and in Saudi Arabia (Manifa Reef). He also collected and photographed two specimens of the species from Bahrain (photos available in Fishbase website, see Randall, 1997).

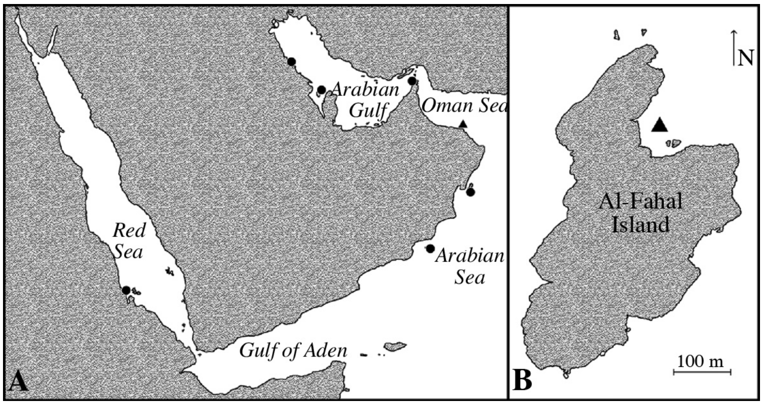

Figure 1. - **A**: Map of the seas surrounding the Arabian Peninsula showing previous records (circles) and present record (triangle) of *Enneapterygius pusillus*. **B**: Exact location of the record in Al-Fahal Marine Reserve.

This paper provides the first record of *Enneapterygius pusillus* from Oman Sea (Gulf of Oman), thus the second triplefin species to be recorded in Oman Sea, after *Helcogramma steinitzi*.

MATERIAL AND METHODS

Enneapterygius pusillus was observed and photographed *in situ* by the second author during a scuba-diving investigation at Al-Fahal Island Marine Reserve, Oman Sea, Muscat, Sultanate of Oman (23° 41'N, 58° 30' E, see Fig. 1). Photos were made on 20 March, 2009, at about noon, using a Nikon D300 digital camera fitted with a 60 mm lens in a Sea and Sea underwater housing. The specimen was encountered at 12 m depth in a rocky environment with scattered hard corals, mixed with sandy areas. It was sitting on a fine sandy layer on top of hard rock (Fig. 2). The fish was not caught.

RESULTS

Although the photographed fish could not allow measurements, the total length was estimated at about 30 mm, which agrees with the 30 mm TL mentioned by Randall (1995a) for a male and a female of that species that he photographed in southern Oman. The three field photographs that were taken of our specimen allowed for some fin ray counts: D III-XII-10, P 14, which agree with the diagnosis given in Randall, 1995a and Holleman, 2005.

In most instances, fish species can be identified in the wild with appropriate visual criteria (see Louisy, 2005), and live photographs have been used in the past to establish new records, even for small cryptobenthic species (Ballesta and Miller, 1998; Francour *et al.*, 2007). In the present case, the criteria visible in the photograph are enough to establish that our specimen is a male of *Enneapterygius pusillus*.

According to Holleman, 2005, "Male *E. pusillus* are distinctive with their very high first dorsal fin and

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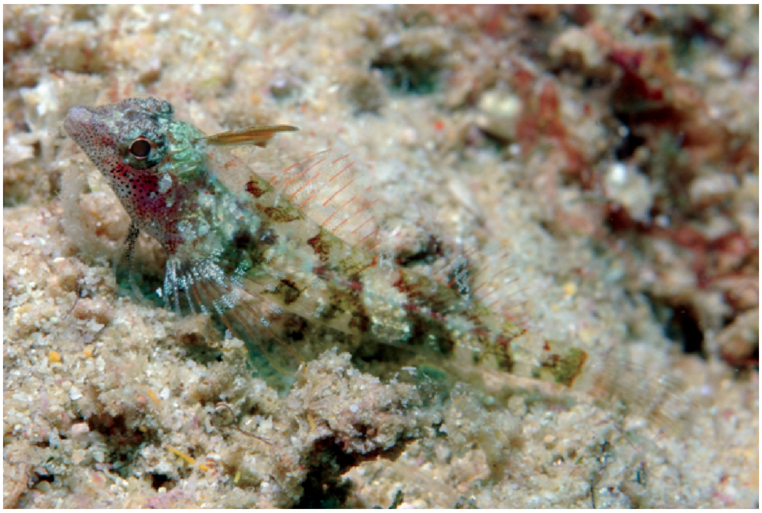

Figure 2. - Photograph of a male *Enneapterygius pusillus* Rüppell, 1835 alive in its habitat. Total length: about 30 mm (Photo: P. Louisy).

black pelvic-fin base and proximal portion of the fins”. Our specimen, although not in full nuptial/territorial colours, clearly shows these two features. The body bars are very similar to those depicted in a photo of a male *E. pusillus* by J.E. Randall (Randall, 1995a, p. 32[1], also shown in Holleman, 2005, plate 2): five dark greenish bars, more or less X-shaped (“hourglass-shaped” according to Randall, 1995a), the first one (behind pectoral fin base) being more indistinct, and the last one (on the caudal peduncle) being triangular with a strait, well defined, rear edge.

The only other comparable species known to show such a high first dorsal fin is *Enneapterygius tutuilae* Jordan & Seale, 1906 (considered a senior synonym of *E. altipinnis* Clark 1980 from the Red Sea by Fricke 1994 and Holleman 2005). In contrast with our specimen, this species has quite uniformly coloured wide dark oblique bars, together with two prominent whitish saddles - or bars - extending onto the rear part of the second and third dorsal fins, in males at least (according to diagnosis and photographs in Holleman, 2005).

DISCUSSION

Knowledge of the ecology of small cryptobenthic fish species in general and triplefins in particular is lacking in Omani waters. The reason why *E. pusillus* was not recorded before in Oman Sea might be that it is rare in the area and/or that we lacked an adequate sampling. The use of diverse fish sampling techniques in the area, including scuba diving and underwater photography, already has ended the reputated rarity of several species (Jawad and Al-Mamry, 2009). The present record of *E. pusillus* confirms that trend.

E. pusillus was previously recorded in the Arabian Gulf and Arabian Sea. Thus, from a mere geographical point of view, its presence was to be expected in the Oman Sea (Gulf of Oman), located in between. However, climatic, hydrological and ecological differences between these three areas, including contrasting seasonal changes, result in some discrepancies in the local ichthyofauna (Randall, 1995b). Thus, the present record can be considered important for the understanding of zoogeographical patterns in the area.

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[1] The publisher erroneously inverted the photos of male and female *Enneapterygius pusillus* In Randall, 1995a, the photo on p. 31 depicts a female (not a male as mentioned in the caption), and the photo on p. 32 shows a male (not a female).